

LITTLE BOYS AND COFFEE MILLS

I opened my mail to find a letter from Bob Stratton an attorney for whom I had appeared as an expert witness. ---

A story told by Dr. MacGowan, an engineering consultant, working as an expert in products liability litigation.

C. O. SMITH

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LITTLE BOYS AND COFFEE MILLS

ECL 273 A

1 November 1986

Dear Dr. McGowan:

I would like to consult with you regarding a product liability claim. The incident arises out of an injury to Bobby Lama\*, birth-date 4 August 1979, when he sustained an avulsion injury of his right index finger on 4 May 1985.

Bobby was grocery shopping with his parents at a SUPER STORE located at 666 Kraffty Road in Humble Port. While walking down an aisle, Bobby stuck his finger in the discharge opening of a HOTSPOT Coffee Grinder and the blade cut off the end of his finger. The grinder was not in operation at the moment of injury.

Our investigation to date indicates the Coffee Grinder Model No. 2200-SP Coffee Mill, Automatic Self-Service Serial No. 1234567, was designed and manufactured by the HOTSPOT Corporation and sold to the SUPER Company for use by the general public and in open access and availability to customers of the SUPER Company. Our investigation also discloses that the primary color of the product is bright orange. There was a label on the lower left hand side of the machine which contained advertising. The information contained on the upper right hand portion of the machine described the method of operation. Also on the adjusting arms located on the right hand side of the machine there were written instructions as to how to make various adjustments on the machine. There were no warnings on the machine nor anything to indicate the hazardness or dangerousness of the machine.

I would like to discuss this matter with you as soon as you have had an opportunity to reflect on this situation. Thank you.

Very truly yours,

Robert P. Stratton

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\*Names, but no facts, have been changed.

LITTLE BOYS AND COFFEE MILLS

ECL 273 B

After reading the letter, I thought for a few minutes and then called Bob on the telephone. After some brief exchanges on the states of our healths and the weather, I told Bob that, on the basis of his letter, all I could do at that stage was to go look at the coffee mill, take some photographs and measurements of the machine, and then give him my reaction and opinion, however tentative. That sounded fine to him and he gave me some suggestions on the easiest way to get to the SUPER STORE in Humble Port.

I found the SUPER STORE, and the coffee mill in it, without any difficulty. The coffee mill was located at the back of the store next to shelves containing coffee, tea, etc. near the end of an aisle. The check-out counters were at the other end of the aisle. I confirmed all the observations which Bob had indicated in his letter.

The coffee mill is shown in Exhibit B-1. The mill is 27 in (68.6 cm) high and 13 in (33 cm) wide, exclusive of handles. It stands on a "grate", putting the mill about 2 in (5 cm) above the shelf. The opening from which ground coffee discharges is 48 in (122 cm) above the floor.

The discharge area is shown in Exhibit B-2. There is a small hood surrounding the discharge opening which, in turn, is covered with a cover (center of Exhibit B-2). This cover is hinged at the top. It rotates freely. The cover has no sharp edges. When the cover is raised, the discharge opening is seen, as shown in Exhibit B-3. The opening is 1 in (2.5 cm) in diameter with a bar across it on a horizontal diameter. It is 1 1/4 in (3.2 cm) from the front of the opening to the burr (which pulverizes the roasted coffee beans).

The fill chute on the top of the mill has an square opening 2 1/4 in (5.7 cm) on each side into a "funnel" which is 1 1/2 in (3.8 cm) deep. There is a barrier which prevents an individual touching the burr which lies directly below.

I had noted a competing supermarket, GREAT GROCERIES (another widespread chain), about 1/2 mile (0.8 km) from this SUPER STORE. I was curious about what that store did with regard to coffee mills. This store had two coffee mills identical to that shown in Exhibit B-1. These, however, were located at the check-out counters and were operated by employees, either checkers or baggers.



Exhibit B-1 Front view of coffee grinder (coffee mill) showing operating instructions, location of grind selector (on right of mill), and discharge spout.



Exhibit B-2 View of area around the discharge spout showing a housing around the spout and a hinged cover (tongue) covering the spout.



Exhibit B-3 View of area around the discharge spout with the cover (tongue) lifted to expose the discharge spout. Note that the front of the circular spout is almost flush with the housing. Note also a small bar located on the horizontal diameter of the circular opening.

LITTLE BOYS AND COFFEE MILLS

ECL 273 C

When I returned to my office, I called Bob Stratton. I relayed all the information which I had about the coffee mills in both the SUPER STORE and GREAT GROCERIES. When he asked me for my opinion, I told him that the coffee mill appeared to be safe for operation by adults and teenagers, i.e., those who might normally be expected to use the mill, since the fill chute provided adequate guarding and the bar across the discharge opening prevented "normal" size fingers from being inserted into the opening. In the case of Bobby Lama, however, a normal boy about 5 1/2 years old, I was not convinced there was adequate protection.

I also told Bob that while I thought there were grounds for suit, I would feel much more comfortable if I had more information. This would include an owner's manual or instruction manual, i.e., any information supplied by Hotspot to purchasers of the coffee mill, detail drawings of the coffee mill, etc.

He told me that he would see what he could get as part of the discovery process. He also told me that he was preparing to enter suit against both HOTSPOT and SUPER STORES.

Some time later he sent me a copy of descriptive advertising material (Exhibit C-1) and the replacement parts catalog (Exhibit C-2) issued by HOTSPOT for this specific model of coffee mill.

It so happens that there are two SUPER STORES in the town in which I live. Both have HOTSPOT coffee mills. Both of these are Model No. 2200-SP and both are located at the end of aisles away from the checkout counters as in Humble Port. Each of these stores, however, also has another coffee mill, made by a different manufacturer, in a different location (near a cheese and "exotic" coffee section). These function in much the same manner as the HOTSPOT mill but the arrangement at the discharge opening is somewhat different as seen in Exhibit C-3. In this case, the hinged cover (or tongue) is restricted in its upward motion so that one can not see the discharge opening (as in Exhibit B-3) without some dis-assembly.

In the course of traveling about the country, I observed HOTSPOT coffee mills (Model 2200-SP) in SUPER STORES in Michigan and Indiana and in a third chain in Florida. The locations in all of these were the same as in Humble Port. SUPER STORES in Kentucky had a coffee mill made by a competitor of HOTSPOT's but in the same location away from checkout counters.

I also wrote a letter to the manufacturer of the competing coffee mill asking questions relative to the design, e.g., (1) Was this the original design or a refinement? (2) When (year) was this design adopted? (3) Were any alternative designs considered and discarded in favor of the one adopted? If so, what were they?


# HOTSPOT


## MODEL 2200 COFFEE MILL


Regular Service  
Self-Service Manual  
Self-Service Automatic

### Specifications

Approved for listing by Underwriters' Laboratories, Inc.


**MOTOR:**  H. P., grease-packed ball bearing, ventilated. *Single phase* is repulsion-start, induction-run type. *Three phase* is polyphase squirrel cage induction type. Available in A. C. only. Note: The self-service automatic model is available in single phase only.

**BURRS:** Standard  granulating burrs of cast chromium alloy. They will produce a grade of grind sufficiently fine for the finest filter vacuum pot.

**RELEASE:** The Model  is equipped with an automatic friction-type release that will absorb the load shock, thus protecting the burrs against damage from nails, stones and other foreign matter. The burrs are readily accessible by unscrewing the grade selector assembly. Complete instructions accompany each mill.

**CAPACITY:** This mill will grind approximately 3 pounds of coffee per minute on "fine" vacuum pot grade of grind.


**HOPPER:** The hopper is conveniently located at the top of the mill and has ample capacity for handling 3 pounds of coffee. A hinged lid is provided as a hopper-cover to prevent foreign material from being put into the hopper when the mill is not in use.

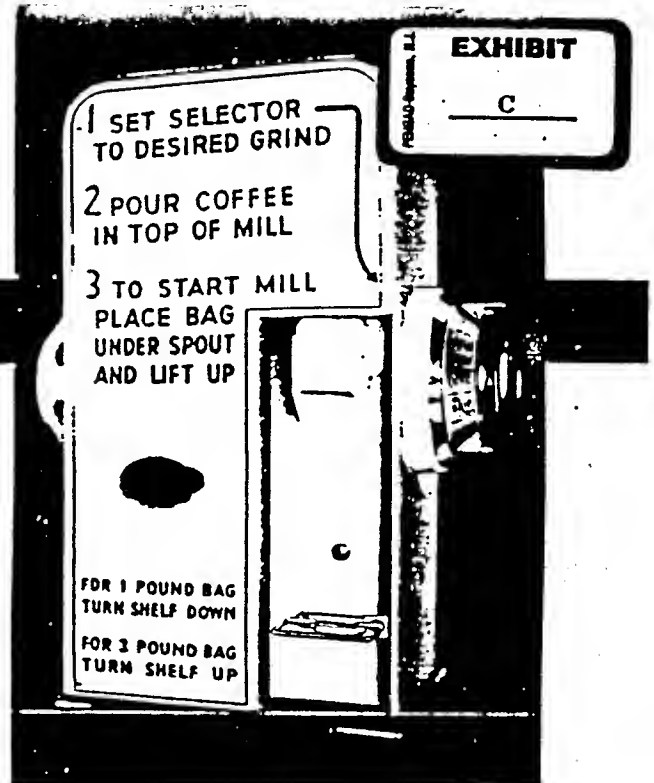
**FINISH:** The housing is finished in attractive  gray and chrome.

**LUBRICATION:** Motor bearings are self-lubricating and the entire machine should require no lubrication for several years' operation.



**LIGHT BULB:** A standard 40 watt bulb, to illuminate the front panel, is supplied with the coffee mill.




Photo above illustrates the illuminated coffee merchandising panel furnished on front of the Model  Coffee Mill.



## Self-Service Coffee Mill

The ever-increasing number of self-service food stores has created a demand for a machine which will enable customers to easily grind their own coffee "on the spot". Ever alert to this merchandising need,  offers two types of self-service Model  coffee mills.

The Automatic Mill, illustrated above, requires the customer to do just three simple things: 1) select the desired grade of grind; 2) pour the coffee beans into the hopper; 3) place the open bag on the shelf under the spout and *lift up!* Lifting the bag starts the grinding action—lowering or removing the bag stops it.

The manually operated mill requires the customer to follow the steps outlined above, but the mill is turned on and off by a conveniently located tumbler switch. An illustration of the customer instruction panel furnished for this type of grinding service appears on specification sheet for the Model .

The installation of this coffee merchandising service is a constant reminder to your customers of the advantage of freshly ground coffee. When they select their favorite blend and grind it themselves, they know it is fresh—and will appreciate the fact that the merchant is giving them the most up-to-the-minute coffee grinding service available.

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# Instructions For Installation and Care of

## COFFEE MILL FOR SUPER GROCERY

### and BAKING CO.

Model Special

### INSTALLATION

Before making the connections, be sure that the electrical specifications on the motor (stamped on the name plate) agree with those of the power circuit. The short wires used for test purposes at the factory have been left projecting from the bottom of the machine but these may be detached so that connecting lines can be

run from the meter box direct to the switch terminals. The wires may be carried down through the counter or work table, or through the back of the case where a knock-out plug is located.

Use 20 ampere fuses in the line if the voltage is 115, or 10 ampere fuses if it is 230.

### OPERATION

This mill has been designed for operation by the customer and carries an instruction plate that gives brief instructions for each step. For a few days after a new mill is installed, it would be well to have an experienced person at hand to demonstrate the process to customers who may lack self-confidence in such matters, but the operations are so simple and come so naturally that even elderly people and children will quickly grasp the idea and enjoy grinding coffee on the mill.

The best method is as follows:

- 1—Turn the grade selector to indicate the degree of grind desired.
- 2—Open the coffee bag, lift the hopper lid and

pour the coffee beans into the hopper, then close the lid. If grinding a one-pound package, place the empty bag under the discharge outlet, resting the bag on the folding shelf. When grinding into a three-pound bag, fold the shelf up to a vertical position and rest the bag on the bottom.

- 3—Switch on the motor and grind the coffee. As soon as the grinding is done, throw off the switch, shake down the ground coffee, and close up the bag. When grinding into a can, hold the can in your hand giving it a gentle shake now and then to distribute the coffee evenly.

### ILLUMINATED PANEL

If it becomes necessary to replace the lamp bulb, take out the four screws (Illus. 37, pg. 6) and lift out the hopper. The bulb can then be removed. We recommend a 40 watt G.E. A-19

bulb, and it must be of the same voltage as the motor. The glass panel is also accessible when the hopper is out. It is held in place by a spring clip at the top, which in turn is secured by one nut.

### COMBINATION GRANULATING AND PULVERIZING BURR UNIT

This mill is equipped with a special device to permit either granulating or pulverizing. The change-over is accomplished by turning the central portion of the rotating burr relative to the outer portion, and it is done automatically and without conscious effort on the part of the operator. When the grade selector is set at any posi-

tion from EXTRA COARSE to DRIP POT the coffee will be granulated. To pulverize, set at EXTRA FINE or PULV. The additional torque given the grade selector to reach these last two positions moves the central part of the burr to the position required for pulverizing.



## AUTOMATIC BURR RELEASE

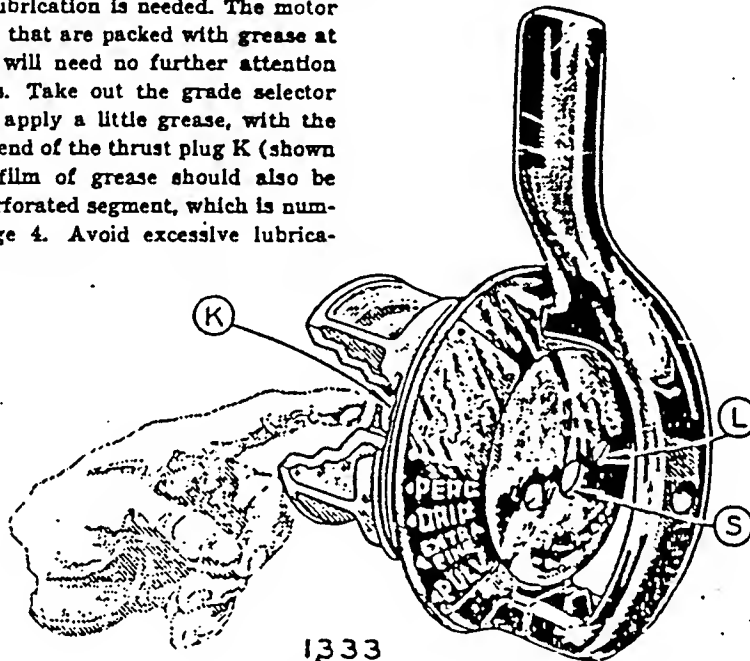
If some foreign object, such as a nail, gets into the mill with the coffee, an automatic release stops the grinding and prevents damage to the burrs. This device is essentially a friction clutch that slips when a shock load occurs and permits the motor shaft to move while the burr remains stationary. When this happens the motor should be stopped at once. Pull out the catch (Illus. 1 on page 6) and turn the grade selector to the left, one and a half turns. The

entire grade selector assembly will then come out, thus opening up the burr case so that the rotating parts can be removed.

Clean out all the coffee from the burr case and from between the burrs, making sure that you have found the object that caused the release. Then replace the parts removed and check the burr adjustment. The release will not require re-setting and rarely gets out of order, so do not take it apart unless absolutely necessary.

## LUBRICATION

Very little lubrication is needed. The motor has ball bearings that are packed with grease at the factory and will need no further attention for several years. Take out the grade selector occasionally and apply a little grease, with the finger tip, to the end of the thrust plug K (shown below). A thin film of grease should also be applied to the perforated segment, which is numbered 43 on page 4. Avoid excessive lubrication.



## ADJUSTMENT OF BURRS

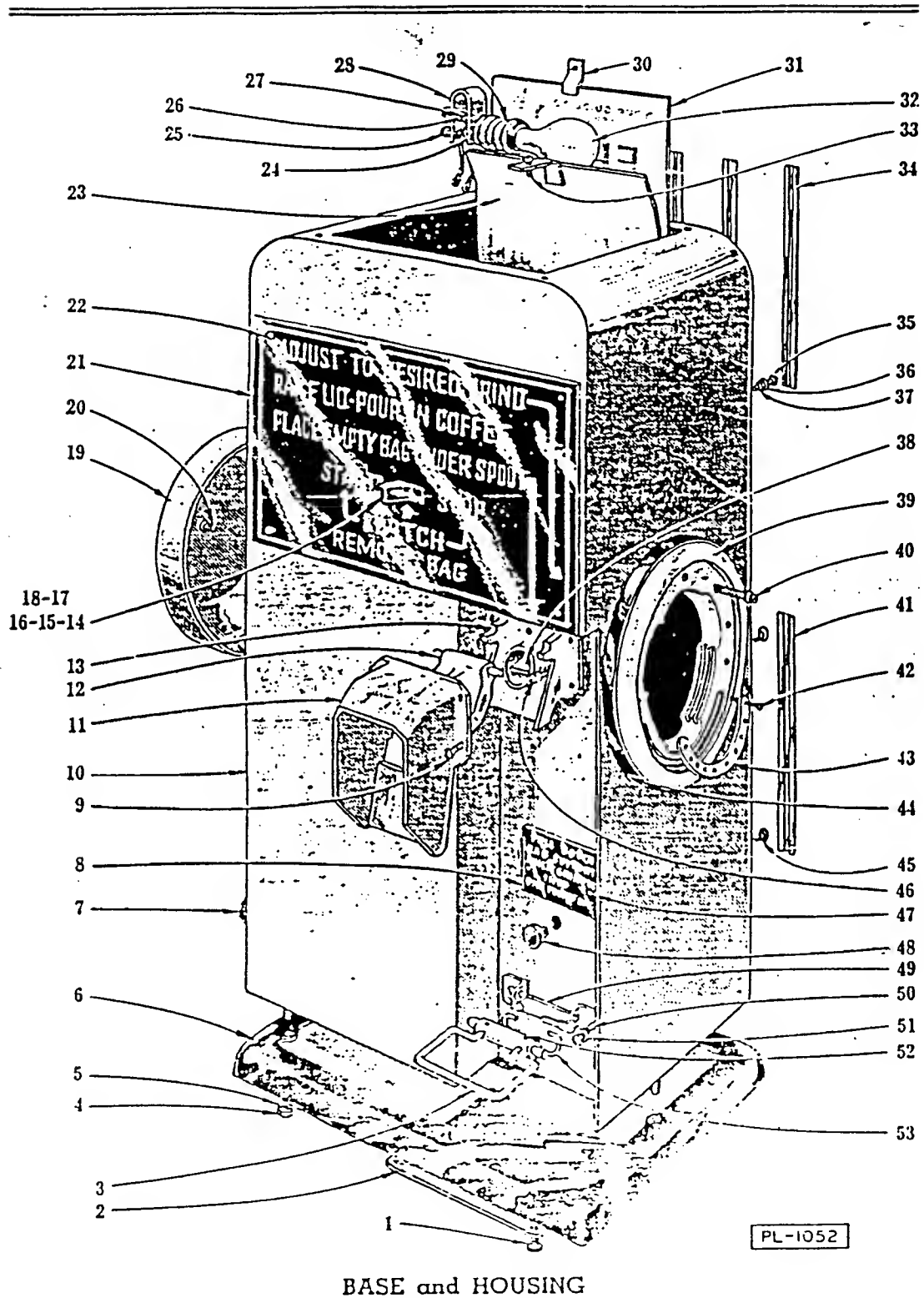
The burrs are made of a special hard alloy and will last for a long time. When the ground coffee begins to look coarser than usual, a simple adjustment will take up the wear and restore the proper grinds. Instructions for adjustment are printed on the front of the grade selector, and are repeated here.

- 1—Start the motor, and then loosen the two lock screws L.
- 2—Turn the grade selector around until you feel it touch the stop at "PULV", then turn the central screw S to the right until you hear the burrs touch.
- 3—Back off slightly until the squeak stops. Then tighten both lock screws L.

## CARE OF MOTOR

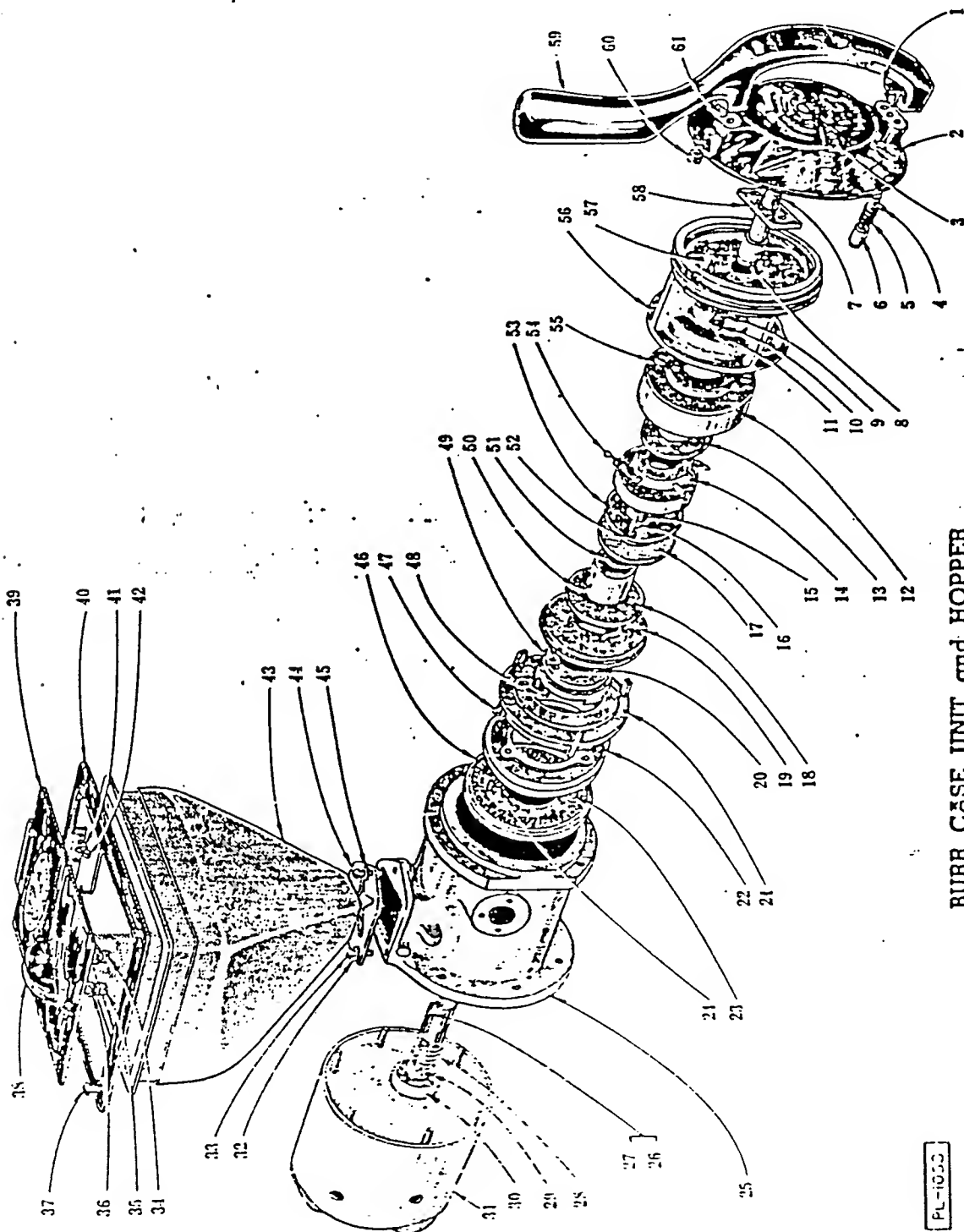
Single-phase and direct-current motors have commutators and brushes that should have periodic attention. Every six months the service man should take off the cover (Illus. 19, page 4) and inspect the parts. If the commutator is

black, it can be polished with a strip of very fine sand paper held on a stick. Replace carbon brushes before the brush tension levers reach the end of their travel.



# BASE and HOUSING

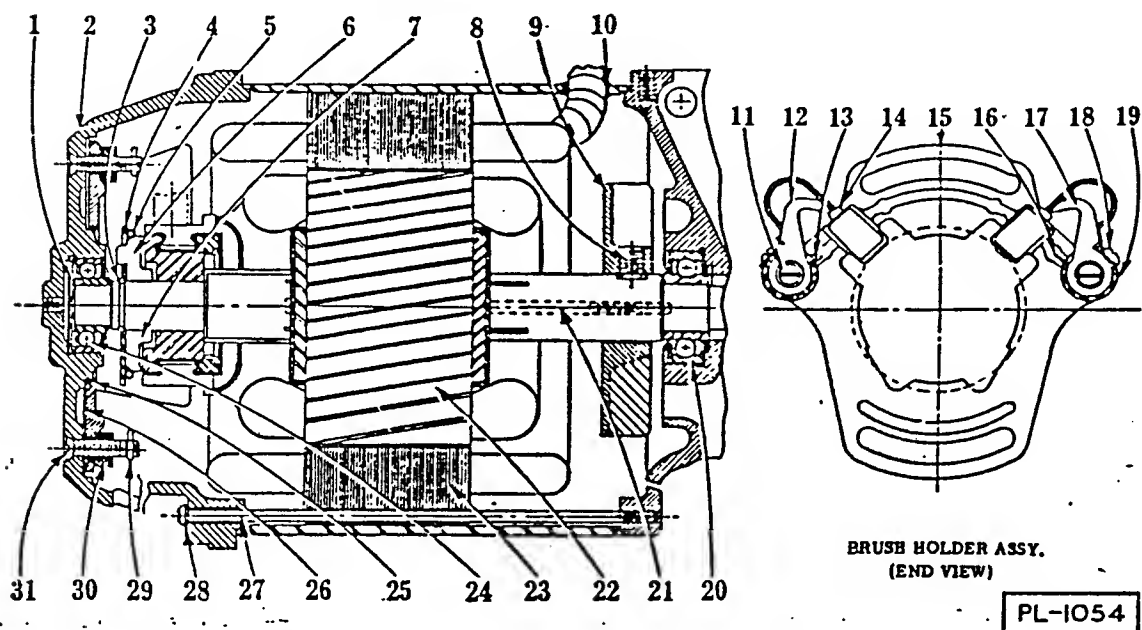
ILLUS. PL-1052	PART NUMBER	NAME OF PART	AMOUNT
1	SC-9-28	Mach. Screw - #10-24 x 3/8" Rd. Hd. ....	4
2	M-17209	Cover - Base .....	1
3	M-18784	Hinge Arm and Shelf Assembly .....	1
4	NS-13-16	Hex Nut - 5/16"-24 .....	3
5	WL-7-19	Lock Washer - 5/16" Ext. Shakeproof .....	3
6	S-21835-1	Base .....	1
7	PB-2-7	Plug .....	1
8	M-23193	Plate - Instruction .....	1
9	SC-15-8	Mach. Screw - #6-32 x 1/4" Oval Ctsk. Hd. ....	4
10	P-23447	Housing .....	1
11	P-17519	Cover - Outlet .....	1
12	P-14356-2	Deflector - Outlet .....	1
13	R-15319-2	Outlet - Burr Case .....	1
14	R-24940-4	Switch - Single Phase & D. C. (Give Elec. Spec.) .....	1
15	R-24940-2	Switch - Three Phase (Give Elec. Spec.) .....	1
16	SC-13-37	Mach. Screw - #8-32 x 3/8" Flat Ctsk. Hd. ....	2
17	NS-9-10	Hex Nut - #8-32 .....	2
18	WL-7-6	Lock Washer - #8 Ext. Shakeproof .....	2
19	R-21852	Cover - Bearing Bracket .....	1
20	SC-16-5	Mach. Screw - 1/4"-20 x 5/8" Oval Ctsk. Hd. ....	1
21	R-23437	Panel - Instruction .....	1
22	SD-7-15	Self-Tapping Screw - #6 x 3/16" Type "B" Phillips Blind. Hd. ....	6
23	R-21898	Reflector Assembly .....	1
24	FE-6-4	Lock Nut - 3/8" Hex Conduit .....	1
25	SC-9-28	Mach. Screw - #10-24 x 3/8" Rd. Hd. ....	2
26	WL-7-11	Lock Washer - #10 Ext. Shakeproof .....	2
27	NS-9-24	Hex Nut - #10-24 .....	2
28	M-15031	Support - Light Socket .....	1
29	M-14692-2	Socket - Light .....	1
30	M-16508	Clamp - Window Panel .....	1
31	P-16630	Panel - Window .....	1
32	BL-2-12	Bulb - Light (Type A-19, 40 Watt, 120 V.) .....	1
33	SC-9-28	Mach. Screw - #10-24 x 3/8" Rd. Hd. ....	1
34	M-16559-2	Moulding (Short) .....	3
35	V-16631	Screw - Moulding Retaining .....	6
36	WL-7-11	Lock Washer - #10 Ext. Shakeproof .....	6
37	NS-9-24	Hex Nut - #10-24 .....	6
38	V-14608	Partition - Outlet .....	1
39	R-14310-3	Ring - Outer Adjusting .....	1
40	M-21861	Screw - Special .....	4
41	M-16558-1	Moulding (Long) .....	3
42	SC-14-38	Mach. Screw - #10-24 x 1-3/4" Flat Hd. ....	2
43	P-14338	Segment - Grade Selector .....	1
44	R-21847-2	Spacer - Grade Selector .....	1
45	V-18310	Retainer - Moulding .....	6
46	SC-11-18	Mach. Screw - #10-24 x 3/8" Fil. Hd. ....	2
47	SD-7-17	Self-Tapping Screw - #6 x 3/16" Type "B" Blind. Hd. ....	2
48	V-18196	Bumper .....	1
49	P-18735	Support - Shelf .....	1
50	SC-15-31	Mach. Screw - #10-24 x 3-8" Oval Ctsk. Hd. ....	2
51	WC-4-6	Washer - #5 Ctsk. ....	2
52	M-24433	Sack Rest Assembly (Incl. Items #5, 12 & 53) .....	1
53	V-18782	Spring - Shelf .....	1
	P-17056	Housing - Switch Box (Not Shown) .....	1
	P-17057	Insulator - Switch Box (Not Shown) .....	1



# BURR CASE UNIT and HOPPER

ILLUS. PL-1053	PART NUMBER	NAME OF PART	AMOUNT
1	M-22809	Knob - Plunger	1
2	P-22000	Grade Selector	1
3	SC-30-33	Mach. Screw - #10-24 x 1-1/4" Oval Cnsk. Hd.	2
4	P-11800-169	Pin	1
5	V-7009	Spring	1
6	M-14332	Plunger	1
7	P-21860	Screw - Adjusting (Incl. Item #8)	1
8	V-14326	Plug - Thrust	1
9	WL-3-36	Lock Washer - 1/4" x 107" x .047"	4
10	NS-13-3	Hex Nut - 1/4"-20	4
11	M-21828	Retaining Stud - Grade Selector	4
12	M-61302	Drive Housing Sub-Assy. (Incl. Item #13)	1
13	M-14837	Plate - Detent	1
14	M-61301	Release Cage Sub-Assy.	1
15	V-16713	Spring - Release	2
16	V-16776	Plunger - Release	1
17	V-14840	Disc - Friction	1
18	P-14843	Flange - Release	1
19	P-14849	Cover - Release Cage	1
20	SC-13-29	Mach. Screw - #8-32 x 1/2" Flat Hd.	6
21	P-14842	Flange - Rotating Burr	1
22	*R-14848	Cran. & Pulv. Burr - Rotating	1
23	V-6385-1	Screw - Burr Retaining	3
24	V-12518	Screw - Burr Retaining	2
25	T-21844	Burr Case & Bearing Bracket	1
26	V-14305	Key (40-50-60 Cyc.) - Std.	1
27	V-14981	Key (25-30 Cyc.)	1
28	M-14362	Spring - Conveyor	1
29	V-14303	Ring - Seal	1
30	BB-11-22	Ball Bearing - N. D. #C-88504-X1C-P1	1
31		Motor (Give Elec. Spec.)	1
32	WS-2-18	Washer	1
33	SC-9-28	Mach. Screw - #10-24 x 3/8" Rd. Hd.	2
34	SC-7-33	Mach. Screw - #8-32 x 3/8" Rd. Hd.	1
35	V-17849	Stop Stud - Lld	1
36	WL-7-6	Lock Washer - #8 Ext. Shakeproof	2
37	V-17712	Screw - Self-Tapping	4
38	V-17634	Handle	1
39	P-17826-2	Assembly of Lld	1
40	S-18232-1	Frame - Lld	1
41	WL-7-11	Lock Washer - #10 Ext. Shakeproof	3
42	SC-7-71	Mach. Screw - #10-24 x 1/4" Rd. Hd.	3
43	S-23245	Hopper	1
44	M-21866	Seal	1
45	WS-2-20	Washer	1
46	*R-14845	Cran. & Pulv. Burr - Stationary	1
47	SC-13-48	Mach. Screw - #10-24 x 1/2" Flat Hd.	4
48	SC-13-31	Mach. Screw - #8-32 x 3/4" Flat Hd.	3
49	P-14847	Burr - Feed Control	1
50	SC-13-2	Mach. Screw - #4-40 x 1/4" Flat Hd.	2
51	V-14306	Thrust Plug - Rotating Member	1
52	V-16712	Spring - Release Plunger	2
53	M-14611	Plate - Pressure	1
54	V-14839	Spring - Release Cage Return	2
55	V-14833	Screw - Stop	1
56	S-21546	Front - Burr Case	1
57	P-11360-04	Dowel	1
58	V-14325	Plate - Locking	1
59	R-21963	Handle - Grade Selector	1
60	SC-11-67	Mach. Screw - #12-24 x 1-1/4" Flat Hd.	4
61	P-11209-50	Pin	1
	M-60224	Release Unit Sub-Assy. (Incl. Items #12, 14, 15, 16, 17, 18, 19, 20, 21, 25, 47, 48, 49, 50, 52, 53, 54 & 55)	1

\* Burrs are lapped together, therefore can be furnished in pairs ONLY.



TYPE OF MOTOR - RGA-3440

MOTOR SPEC. 4679

Motor type and Spec. number are stamped on motor (sometimes under Name Plate).

When ordering motor replacement parts, in addition to motor Type and Spec. No., give Serial No., Model, Spec., and all electrical data shown on machine name plate.

ILLUS. PART PL-1054	NUMBER	NAME OF PART	AMOUNT
1	SL-2-4	Spring - Loading	1
2	B-21850	Bracket - Bearing (Comm. End)	1
3	V-6052	Ring - Retaining	1
4	M-6050	Plate - Retaining	1
5	P-24789	Spring - Shorting Device (Give Elec. Spec.)	1
6	M-6230	Partition - Shorting Device	6
7	M-6329	Segment - Shorting	48
8	SC-47-50	Set Screw - 3/8"-24 x 3/8" Soc. Hds. Cup Pt.	1
9	P-15350	Fan - Ventilating	1
10	M-23658	Grommet	1
11	V-6733	Screw - Tension Lever	2
12	M-6738	Tension Arm & Hub Assembly (R. H.)	1
13	M-6730	Spring - Tension Lever (R. H.)	1
14	V-5603	Brush - Carbon	2
15	M-18650	Ring - Brush Holder	1
16	M-6731	Spring - Tension Lever (L. H.)	1
17	M-6729	Tension Arm & Hub Assembly (L. H.)	1
18	SC-27-40	Mach. Screw - #10-24 x 1/4" Rd Hd.	2
19	V-6718	Washer - Spring Adj.	2
20	BB-11-22	Ball Bearing - N. D. #C-85501-N1C-P1	1
21	M-21927	Screw - Special	2
22	P-15746-159	Armature Assembly (Give Elec. Spec.)	1
23		Ring & Stator Assembly (Give Elec. Spec.)	1
24	EP-11-0	Ball Bearing - N. D. #C-85503-N1C-P1	1
25	V-14574	Insulator - Brush Holder Ring	1
26	P-14573	Insulator - Brush Holder Ring	1
27	SC-8-7	Mach. Screw - #10-24 x 7-1/4" Rd Hd.	4
28	WL-7-11	Lock Washer - #10 Ext. Shakeproof	4
29	PC-3-17	Cotter Pin - 1-15" x 1/2"	2
30	V-14575	Nut - Clamp	2
31	V-21820	Screw - Special	2
	P-18651-2	Brush Holder Assembly (Incl. Items #11 to 19 Inclusive)	1



Exhibit C-3 View of area around the discharge spout of a competitor's coffee mill. Note the cover (tongue) is longer and the housing extends farther, making it impossible to raise the cover enough to expose the discharge spout as is apparent in Exhibit B-3.

LITTLE BOYS AND COFFEE MILLS

ECL 273 D

Somewhat to my surprise, since manufacturers are very wary of questions of the type raised in Section C, the chief design engineer called me on the telephone. He indicated that the model coffee mill I had seen was designed in the late 1950s. The hinged cover (tongue) does provide some safety but the principal intended purpose is to keep the ground coffee from "spraying" as it exits the discharge opening. This spout arrangement was used on several different models until early 1986 when a different arrangement was used on a new model. This new arrangement has a flat spring which provides a definite barrier to access to the grinding burrs.

I noticed that the advertising material or specifications (Exhibit C-1) said: "Approved for listing by Underwriters' Laboratories, Inc." I was able to review the Underwriters' Laboratory standards. The only thing that I could find was UL 982, dated May, 10, 1979, which applied to household food preparing machines. This was a second edition. The first edition was issued in January 1975. An excerpt from this standard is given in Exhibit D-1.

A review of the American National Standard Institute index of standards indicated that ANSI/ASME Standard F 2.1 might apply. I had no copy readily available and did not try to obtain one as Bob Stratton had indicated that he wanted a "minimum" input of effort in this case.



MAY 10, 1979

MOTOR-OPERATED HOUSEHOLD FOOD PREPARING MACHINES - UL 982

27

### Coffee Grinder

20.57 The enclosure of a coffee grinder is considered to comply with the requirement in paragraph 20.1 if: \*

#### A. At the feed opening:

1. The diameter is less than 2-1/2 inches (63.5 mm) or maximum diagonal dimension of the opening is less than 3 inches (76.2 mm), and the maximum extremity of a moving part that can cause personal injury is recessed not less than 3-1/2 inches (88.9 mm) from the nearest edge of the plane of the opening; or

2. A guard is provided that does not permit access to a moving part that can cause personal injury when the cover is open.

#### B. At the discharge opening:

1. The diameter is less than 2-1/2 inches (63.5 mm) or the maximum diagonal dimension of the opening is less than 3 inches (76.2 mm), and the maximum extremity of a moving part that can cause personal injury is recessed not less than 3-1/2 inches (88.9 mm) from the nearest edge of the plane of the opening; or

2. A guard or guards are provided to limit the maximum width of the opening to 3/8 inch (9.5 mm) at the point of exposure to the risk of personal injury, and the closest point of a moving part that can cause personal injury is recessed at least 1/4 inch (6.4 mm) from the nearest edge of the guards where it limits the opening to 3/8 inch (9.5 mm), or

3. A guard is provided that automatically covers the opening when the discharge container is removed, or

4. The discharge opening is in the horizontal plane, its diameter is less than 2-1/2 inches (63.5 mm) or the maximum diagonal dimension is less than 3 inches (76.2 mm) and the distance from a moving part that can cause personal injury to the nearest edge of the plane of the opening is not less than 2 inches (50.8 mm). A 3/8 inch (9.5 mm) diameter rod is not to contact a moving part that can cause personal injury when it is inserted into the opening a distance of 3-1/2 inches (88.9 mm) or less.

Paragraph 20.57 effective October 1, 1979

\* Paragraph 20.1 relates to safety requirements.

EXHIBIT D-1

Excerpt from Underwriters' Laboratory Standard 982

LITTLE BOYS AND COFFEE MILLS

ECL 273 E

Having this information, I was now in a position to give Bob Stratton a firmer opinion than just after my visit to the SUPER STORE in Humble Port.

What HOTSPOT intended by reference to listing by UL is not clear. The first version of UL 982 was issued in January 1975. It is highly likely that Model 2200-SP was designed and produced several years before that. In addition, UL 982 was for household machines. I believed, however, that it should apply equally well to commercial machines. Examination of Exhibit D-1 shows that Paragraph B.2 essentially covers the design of the coffee mill on which Bobby Lama was injured.

Whether or not UL 982 applies (and it can not really be applied retroactively), it was my opinion that the coffee grinder was reasonably safe for use by "average" size people who would not be able to insert a finger far enough into the discharge spout to contact the pulverizing burr. The manufacturer seemed aware that a variety of people might be using the coffee mill as it said in Exhibit C-2:

This mill has been designed for operation by the customer and carries an instruction plate that gives brief instructions for each step. For a few days after a new mill is installed, it would be well to have an experienced person at hand to demonstrate the process to customers who may lack self-confidence in such matters, but the operations are so simple and come so naturally that even elderly people and children will quickly grasp the idea and enjoy grinding coffee on the mill."

Given this, however, it does not seem that the manufacturer fully accounted for the fact that people of all ages, from a few weeks to nonagenarians, will be found in supermarkets. (No comment on the implication that "elderly people and children" are somehow less intelligent than the rest of people.) The manufacturer also seems to have failed to account for the normal (perhaps even insatiable) curiosity of little boys. [I could see my own grandsons in this same situation.] This seems to be a situation of failure to fully cope with the foreseeability "requirement" which the courts have effectively imposed on manufacturers.

There are at least two design alternatives which would make it more difficult for anyone, of any size, to reach the pulverizing burr. One would be to change the horizontal bar by adding a second bar on the vertical diameter. The other would be to put a 90° elbow on the discharge spout. Either would be a definite improvement, the combination even more so. The added manufacturing cost would be insignificant related to the cost of the coffee mill.